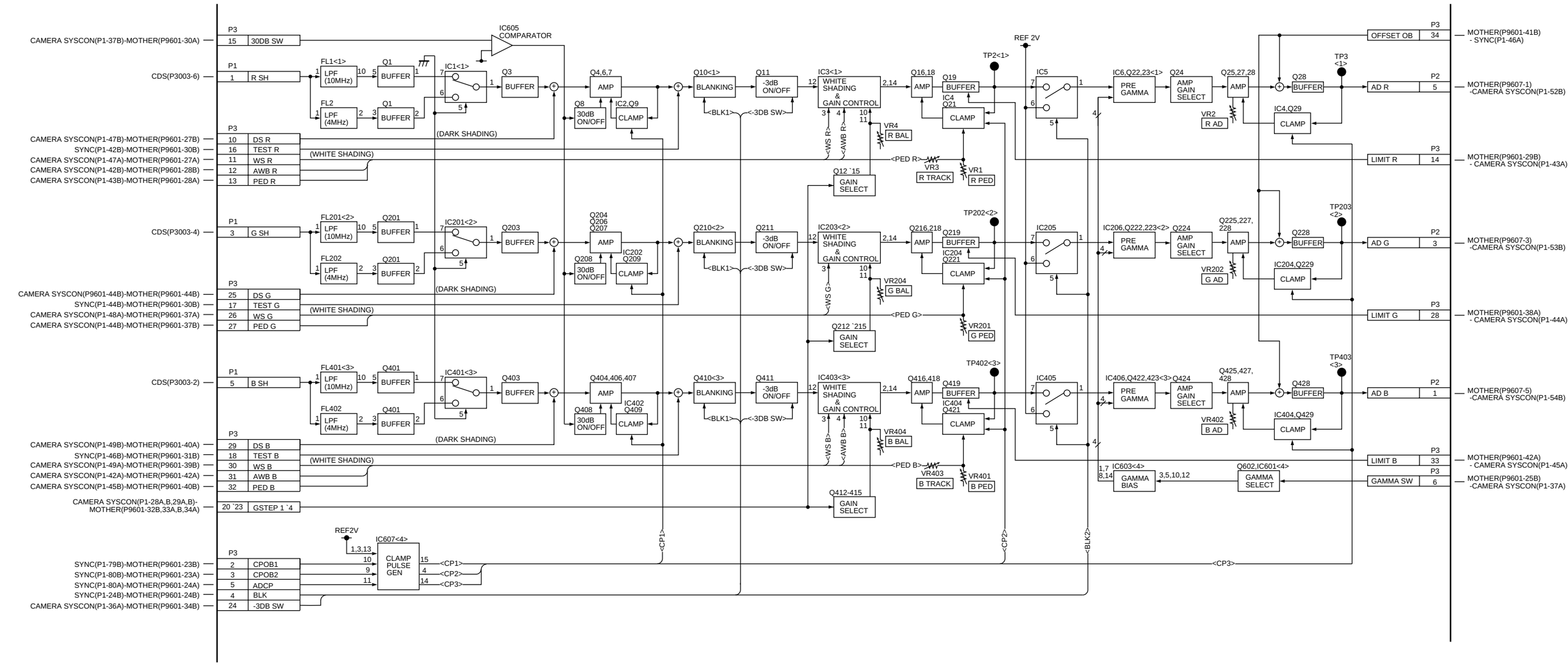PREPROCESS BLOCK DIAGRAM